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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,271	11/17/2003	Dong Heon Lee	K-0550	1468

34610 7590 10/05/2004

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EXAMINER

LEUNG, PHILIP H

ART UNIT PAPER NUMBER

3742

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/713,271

Applicant(s)

LEE ET AL.

Examiner

Philip H Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 18, 19 and 21-31 is/are rejected.
- 7) ☒ Claim(s) 17 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. The drawings filed on 7-6-2004 are acceptable.
2. Claims 27 and 31 are objected to as the term "the rear panel" in claim 27 and "the first and second branch ducts" in claim 31" have no proper antecedent basis. Clarification and correction are required.
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
4. Claims 1, 2, 8-10, 15, 16, 18, 19, 21-24 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakurai (JP 63-127026) (previously cited).

In regard to the newly added claim 21, Sakurai shows a microwave oven, comprising an outer case forming a top and sides of a cabinet; a base plate forming a bottom of the cabinet; an inner case forming a cooking chamber disposed within the outer case; first and second transformers (9, 10) positioned on the base plate; a fan apparatus (7) positioned adjacent one of the first and second transformers and configured to draw external air into the inner case; an air duct (8) positioned at least partially between the first and second transformers, the air duct having one end in communication with the fan housing; and at least one magnetron (5 or 6) positioned outside the inner case, wherein the at least one magnetron is connected to the air duct. Similarly, in regard to claim 1 and the newly added claims 22-24, Sakurai shows a microwave oven comprising an outer case forming a top and sides of a cabinet, a base plate forming a

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bottom of the cabinet; a front panel and a rear panel mounted in a front part and a rear part of the base plate for forming a front surface and a rear surface, respectively; an inner case forming a cooking chamber (1) on the base plate; first and second transformer (9, 10) mounted at corners of one side of the base plate; a fan (part of fan assembly 7) above the second transformer for drawing external air; a fan motor (part of fan assembly 7) connected to the fan for providing a driving power to the fan; a fan housing (part of fan assembly 7) for protecting the fan; an air duct (8) positioned at least partially between the first and second transformers, the air duct having one end communication with the fan housing and the other end branched to first and second branch ducts; and first and second magnetrons (5, 6) on an outside surface of the inner case, the first and second magnetrons connected to the first and second branch ducts, respectively (see Figures 1-3 and the English abstract). It also shows the plurality of inflow holes (15) as claimed in claim 2. In regard to claim 8, air outlet 14b is the claimed third outflow holes for discharging air passed through the second transformer (10). In regard to claim 9, the air duct is spaced apart from the inside wall of the oven casing as shown in Figure 3. In regard to claims 10 and 30, the air duct includes sloped duct walls as shown in Figures 1 and 2. In regard to claims 15 and 16, it also shows the first branch duct is connected to a second duct (11) for guiding flow of air to the rear panel, and the first magnetron (5) is mounted in the second duct and the rear panel includes a second outflow hole (13) connected to the second duct for discharging the air. In regard to claims 18 and 19, it also shows the second branch duct is connected to a third duct (12) for guiding flow of air to the rear panel, and the second magnetron (6) is mounted in the third duct and the rear panel includes a third outflow hole (14a) connected to the third duct for discharging the air.

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-7, 11-14, 25-29 and 31 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai (JP 63-127026), in view of Yu (US 5,814,793) (previously cited).

Sakurai shows a microwave oven having every feature as claimed except the showing of a plurality of inlet holes in the inner case for introduction of the air passed through the air ducts and the magnetron (claims 3-5 and 25-27). Yu shows a microwave oven with a fan cooling system 14 for cooling the magnetron 12 mounted on the inner case and a transformer 13 on the base plate. It shows a plurality of holes 11c on the inner case for introducing the air passed the magnetron into the heating chamber 11 (see Figures 1-3 and col. 3, line 49 – col. 4, line 45). It would have been obvious to an ordinary skill in the art to modify Sakurai to use inlet holes on the inner case portioning wall to direct air from the magnetron into the cavity for removing moisture from the cavity and additionally heating the food, for better cooking efficiency and result, in view of the teaching of Yu. In regard to claims 6, 7, 28 and 29, Yu shows the use of air guide 15 for directing air flow to the magnetron. In regard to claims 11-14 and 31, Yu also teaches the use of air guide to direct cooling air over the fan motor (see Figure 1). The exact cooling air flow arrangement would have been a matter of engineering design variations of Sakurai and Yu once it is taught to use a branched air duct for cooling an assembly of two magnetrons and two transformers together.

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7. Claims 17 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Applicant's arguments filed 7-6-2004 have been fully considered but they are not persuasive. As clearly set forth in the rejection, the fan assembly 7 of Sakurai clearly includes a fan (the propeller blades), a motor and a protecting housing (the outer shell covering the blades). These three elements are basic components of a centrifugal fan assembly. The argument that Sakurai does not have a fan housing is therefore not persuasive. It is pointed out that the newly added claim 21 does not even include any fan housing. Secondly, the argument that Sakurai "does not disclose an air duct positioned at least partially between the first and second branch ducts" is not understood as the claim recites "an air duct (8) positioned at least partially between the first and second transformers". Anyway, it is pointed out that the air duct 8 of Sakurai, as shown in Figures 1 and 2, is clearly positioned at least between the two transformers 9 and 10 although it is also above the transformers. As the transformers are located at separate corners, the air duct 8 can only be located somewhere between the two corners where the transformers are located. Therefore, it can be seen that the amendment does not define over the references but rather, broadens the scope. In regard to the newly added claims 21-31, which are clearly broader than the original claims, as claim 21 does not require a fan housing or two magnetrons. A mere statement "added claims 21-31 also define the applied art" obviously contains no merits.

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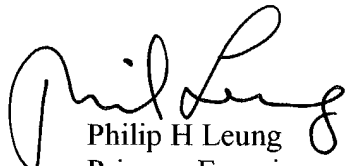
9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (703) 308-1710.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (703) 305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Philip H Leung
Primary Examiner
Art Unit 3742

P.Leung/pl
9-30-2004